

CHAPTER 19 - CONCRETE

2001 CBC	PROPOSED ADOPTION	OSHPD		Comments
		2	3	
	Adopt entire chapter without amendments		X	
	Adopt entire chapter with amendments listed below	X		
	Adopt only those sections listed below			
	<i>1908.1.10</i>	X		
<i>1923.3.5</i>	<i>1912.2</i>	X		Relocated existing California Building Standards into IBC format

REPEAL OF EXISTING CALIFORNIA AMENDMENTS IN PART OR IN WHOLE THAT ARE NO LONGER NECESSARY AS FOLLOWS:

2001 CBC SECTION 1909 – STRENGTH AND SERVICEABILITY REQUIREMENTS: Repeal amendment in the following subsection.

~~1909.3.1.1.~~

2001 CBC SECTION 1921 – REINFORCED CONCRETE STRUCTURES RESISTING FORCES INDUCED BY EARTHQUAKE MOTIONS: Repeal all amendments in following subsections.

~~1921.0, 1921.6.6.3 1921.6.6.5, 1921.7.2.2 and 1921.7.2.3.~~

Notation [For OSHPD]:

Authority: Health and Safety Code Section 129850

Reference: Health and Safety Code Sections 1275 and 129850

Italics are used for text within Sections 1903 through 1908 of this code to indicate provisions that differ from ACI 318.

EXPRESS TERMS

SECTION 1901 GENERAL

1901.1 Scope. The provisions of this chapter shall govern the materials, quality control, design and construction of concrete used in structures.

SECTION 1908 MODIFICATIONS TO ACI 318

1908.1 General. The text of ACI 318 shall be modified as indicated in Sections 1908.1.1 through 1908.1.16.

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1908.1.10 ACI 318, Section 21.10.1.1. Modify ACI 318, Section 21.10.1.1, to read as follows:

21.10.1.1 - Foundations resisting earthquake-induced forces or transferring earthquake-induced forces between a structure and the ground shall comply with the requirements of Section 21.10 and other applicable provisions of ACI 318 *unless modified by Chapter 18 of the California International Building Code.*

1908.1.12 ACI 318, Section 21.12.5. Modify ACI 318, Section 21.12.5, by adding new Section 21.12.5.6 to read as follows:
21.12.5.6 - Columns supporting reactions from discontinuous stiff members, such as walls, shall be designed for the special load combinations in Section 1605.4 of the ~~California International~~ Building Code and shall be provided with transverse reinforcement at the spacing, s_{tr} , as defined in 21.12.5.2 over their full height beneath the level at which the discontinuity occurs. This transverse reinforcement shall be extended above and below the column as required in 21.4.4.5.

Notation [For OSHPD]:

Authority: Health and Safety Code Section 129850

Reference: Health and Safety Code Sections 1275 and 129850

SECTION 1912 ANCHORAGE TO CONCRETE— STRENGTH DESIGN

1912.1 Scope. The provisions of this section shall govern the strength design of anchors installed in concrete for purposes of transmitting structural loads from one connected element to the other. Headed bolts, headed studs and hooked (J- or L-) bolts cast in concrete and expansion anchors and undercut anchors installed in hardened concrete shall be designed in accordance with Appendix D of ACI 318 as modified by Section 1908.1.16, provided they are within the scope of Appendix D.

Exception: Where the basic concrete breakout strength in tension of a single anchor, N_b , is determined in accordance with Equation (D-7), the concrete breakout strength requirements of Section D.4.2.2 shall be considered satisfied by the design procedures of Sections D.5.2 and D.6.2 for anchors exceeding 2 inches (51 mm) in diameter or 25 inches (635 mm) tensile embedment depth.

The strength design of anchors that are not within the scope of Appendix D of ACI 318, and as amended above, shall be in accordance with an approved procedure.

1912.2 (Relocated from 1923.3.5, 2001 CBC) [For OSHPD 2] Post Installed Anchors in Concrete Tests. Drilled-in expansion bolts or epoxy-type anchors in concrete. When drilled-in expansion-type anchors or other post installed anchors acceptable to enforcement agency are used in lieu of cast-in place bolts, the allowable shear and tension values and installation verification test loads shall be acceptable to the enforcement agency.

When expansion-type anchors are listed for sill plate bolting applications, 10 percent of the anchors shall be tension tested to twice the allowable tension value for bolts of the same diameter.

When expansion-type anchors are used for other structural applications, such as hold-down bolts, all such expansion anchors shall be tension tested to twice the allowable tension value for bolts of the same diameter.

When expansion-type anchors are used for nonstructural applications such as equipment anchorage, 50 percent or alternate bolts in a group, including at least one-half the anchors in each group, shall be tension tested to twice the allowable tension value.

The tension testing of the expansion anchors shall be done in the presence of the ~~project~~ special inspector and a report of the test results shall be submitted to the enforcement agency. If any anchors fail the tension-testing requirements, the additional testing requirements shall be acceptable to the enforcement agency. The above requirements shall also apply to other post installed anchors acceptable to enforcement agency and bolts or anchors set in concrete with chemical if the long-term durability and stability of the chemical material and its resistance to loss of strength and chemical change at elevated temperatures are established to the satisfaction of the enforcement agency.

Notation [For OSHPD]:

Authority: Health and Safety Code Section 129850

Reference: Health and Safety Code Sections 1275 and 129850